

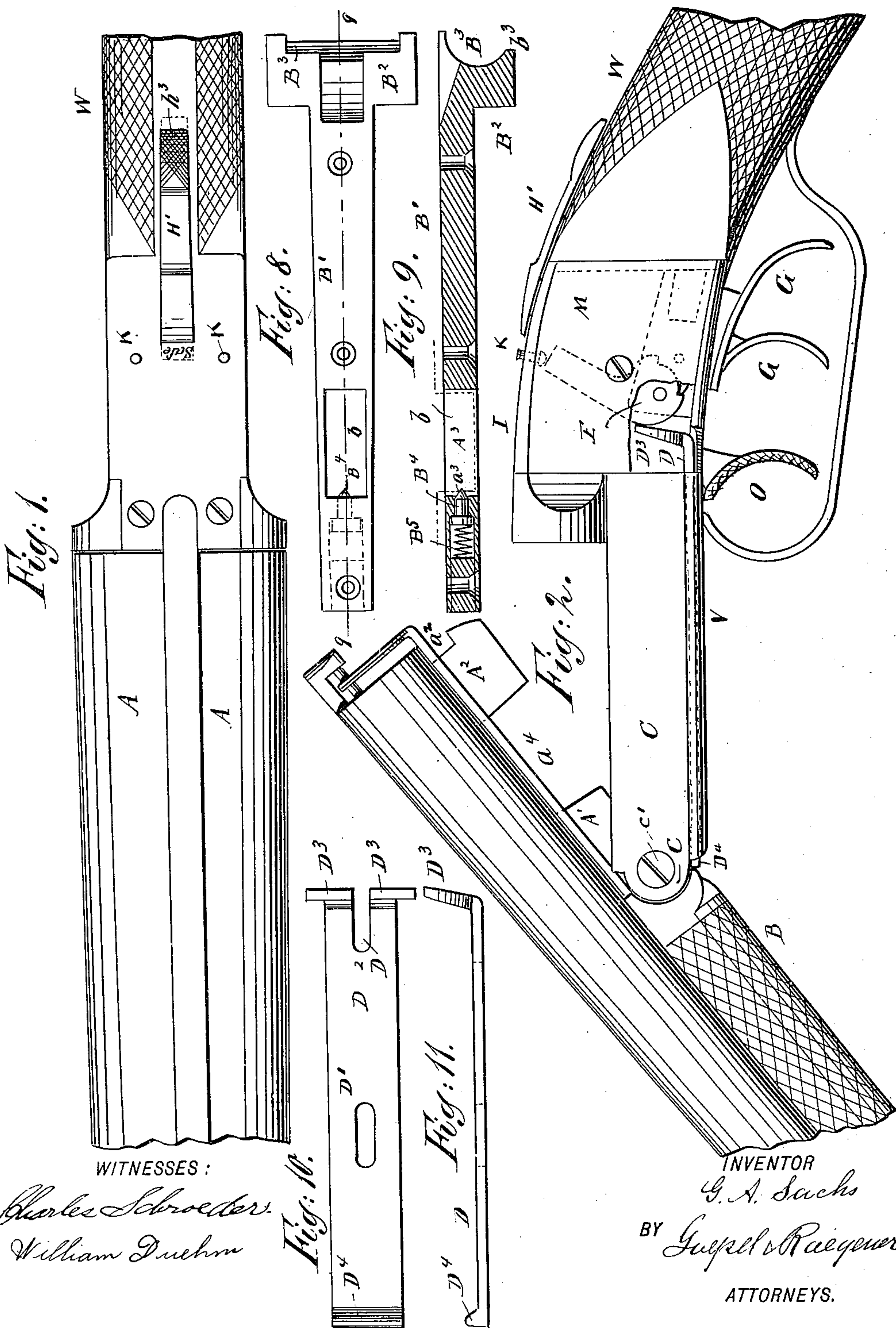
(No Model.)

2 Sheets—Sheet 1.

G. A. SACHS.  
BREAKDOWN BREECH LOADING GUN.

No. 495,639.

Patented Apr. 18, 1893.



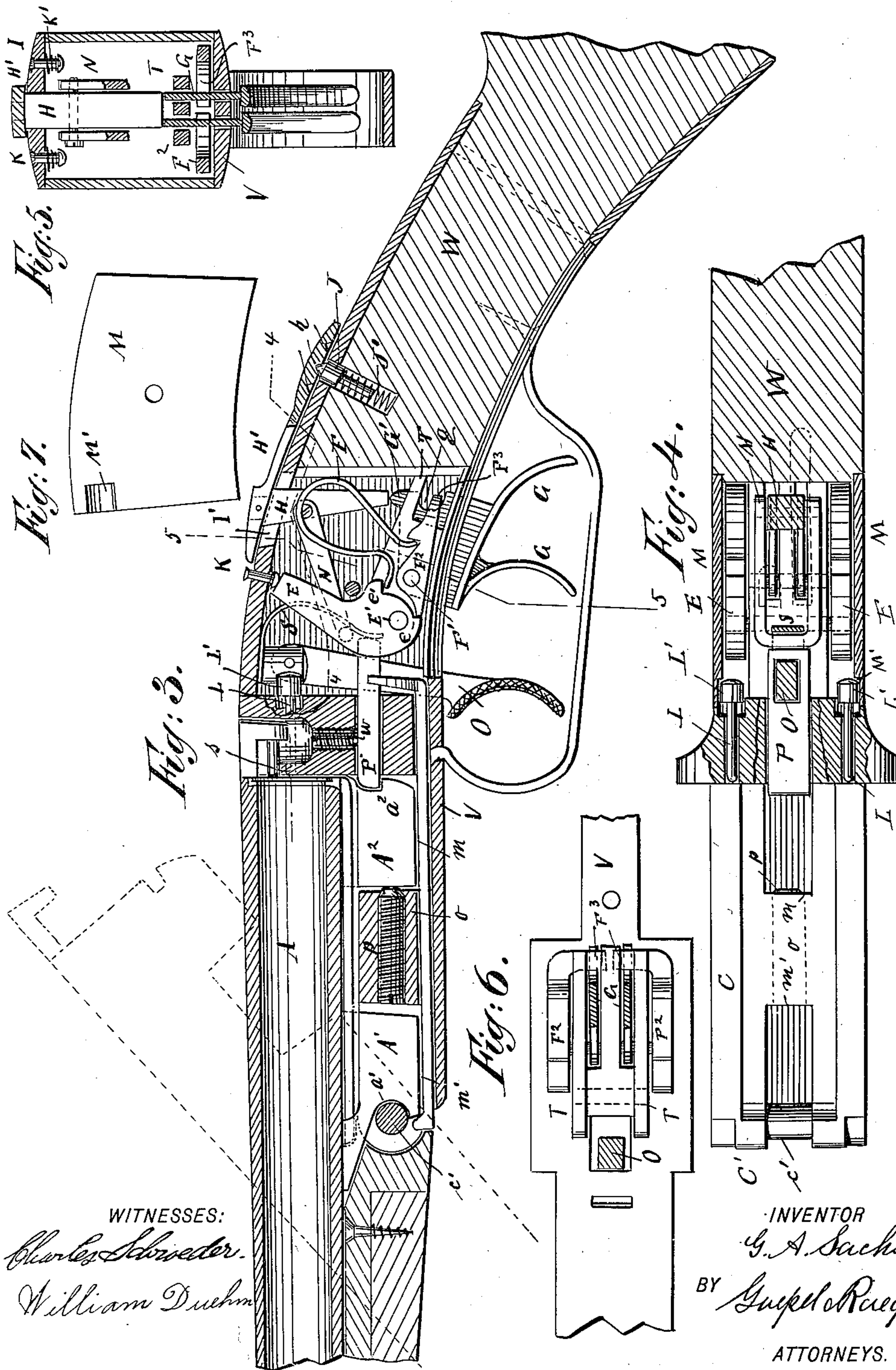
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WITNESSES:

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INVENTOR

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BY

*Guiseppi Regerer*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

GUSTAV ADOLF SACHS, OF EUGENE, OREGON.

## BREAKDOWN BREECH-LOADING GUN.

SPECIFICATION forming part of Letters Patent No. 495,639, dated April 18, 1893.

Application filed August 18, 1892. Serial No. 443,389. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAV ADOLF SACHS, a subject of the Emperor of Germany, and a resident of Eugene, in the county of Lane and State of Oregon, have invented certain new and useful Improvements in Firearms, of which the following is a specification.

This invention relates to certain new and useful improvements on my patent on breech-loading fire-arms, No. 353,432, issued to me on the 30th day of November, 1886.

The object of my invention is to provide a new and improved lock to facilitate the detaching of the barrel from the stock, to provide means for automatically cocking the gun, to provide an automatically-operating safety-device and an indicator to show whether the gun is cocked or not.

The invention also consists in the construction and combination of parts and details which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a top-view of the breech-part of my improved breech-loading fire-arm. Fig. 2 is a side-view of the parts, showing the breech open. Fig. 3 is a vertical longitudinal sectional view showing the breech closed. Fig. 4 is a plan-view of the stock, parts being shown in section on the line 4 4, Fig. 3. Fig. 5 is a vertical transverse-sectional view, on line 5 5, Fig. 3. Fig. 6 is a top-view of the trigger-plate, parts being in section. Fig. 7 is an inner side-view of one lock-plate. Fig. 8 is a view of the inner side of the fore-arm. Fig. 9 is a vertical longitudinal sectional view of the same on the line 9 9, Fig. 8. Fig. 10 is an inner side-view of the cocking-slide. Fig. 11 is a side-view of the same.

Similar letters of reference indicate corresponding parts.

The barrels A are provided a short distance in advance of the breech-end on the under side with a lug A' provided with a notch  $a'$  in its front end and at the breech-end with a hook-lug A<sup>2</sup> having a notch  $a^2$  at the rear end. A recess  $a^4$  is formed between said lugs. Some distance in advance of the lug A', the barrels are provided on the under side with a lug A<sup>3</sup> provided in its front end with a notch  $a^3$ , as shown in dotted lines in Fig. 9. The fore-arm B which is made of wood has a plate B' in-

serted in its inner surface and said plate is provided with a transverse piece B<sup>2</sup> having a curved recess B<sup>3</sup> that fits on the rounded hinge-parts C' at the front end of the breech-block C so as to turn on the same and on the hinge pin C' at the front of said breech-block. At the bottom of the recess B<sup>3</sup> a shoulder  $b^3$  is formed for the purpose as will be set forth hereinafter.

In a recess at the front end of the plate B' a sliding latch-pin B<sup>4</sup> is arranged that is acted upon the helical spring B<sup>5</sup> arranged between the front end of said recess and the head of said latch-pin, so as to press the pointed end of said latch-pin through the front end of the slot  $b$ , so as to adapt said latch-pin to engage the recess or notch  $a^3$  in the front end of the lug A<sup>3</sup> of the barrel. To fasten said fore-arm to the barrel, it is only necessary to place its front end upon the rounded hinge-end C' of the breech-block C and then press the said fire-arm against the undersides of the barrels. The latch pin B<sup>4</sup> then snaps into the notch  $a^3$  of the lug A<sup>3</sup> of the barrel and locks the fore-arm to the barrel. The fore-arm can easily be removed, all that is necessary being to pull its front end outward, when the beveled edges of the notch  $a^3$  acting on the point of the pin B<sup>4</sup> force said pin into the recess against the action of the spring B<sup>5</sup>.

To the under side of the breech-block a cocking-slide D is arranged which consists of a plate having a longitudinal guide-slot D' for a guide-pin and is provided at its rear end with a slot D<sup>2</sup> and with a flange D<sup>3</sup>, at each side of said slot D<sup>2</sup>, which flanges project into the lock-chamber. At the front end said cocking-slide is provided with a flange D<sup>4</sup> on which the edge  $b^3$  of the rear end of the plate B' in the fore-arm can act. When the barrels are swung into open position, as shown in Fig. 2, said edge  $b^3$  acts on the flange D<sup>4</sup> of the cocking-slide and moves the same in the direction toward the rear, causing the flanges D<sup>3</sup> to act on the hammers E which are mounted on a pin E' in the lock-chamber, which hammers are pivoted on arms T projecting from the rear end of the lock-chamber. Said hammers are each provided with two shoulders  $e$  and  $e'$ . A bent spring F is provided for each hammer E, and of each spring one end rests against the shoulder  $e'$  of a hammer and



the other end rests against the shoulder  $f'$  of a trigger-sear  $F^2$  mounted on a pin  $F'$ , also held on the arms  $T$ , the front end of which trigger-sear engages a shoulder  $e$  of a corresponding hammer. Each trigger-sear is provided at its rear end with an inwardly-projecting arm  $F^3$  which enters a notch  $g$  of the corresponding trigger  $G$ , which triggers also swing on the pin  $F'$ .

Each trigger is provided at its inner end with a lug  $G'$  which can abut against the safety-bolt  $H$  projecting through the longitudinal slot  $I'$  of the breech-tail  $I$  into the lock-chamber, which safety-bolt is fastened to and projects from the plate or safety-slide  $H'$  that is mounted on the outer surface of the breech-tail  $I$ , and is provided at its lower end with a series of notches  $h$  on its under side, which notches are engaged by pointed ends of a locking or safety-pin  $J$  arranged in a suitable aperture in the stock and guided in the same, which safety-pin is pressed outward by the helical spring  $J'$ . The outer surface of the lower end of the safety-slide  $H'$  is serrated, as is shown at  $h^3$  in Fig. 1, to prevent the finger from slipping while manipulating the same. The word "Safe" is engraved or etched on the upper surface of the breech-tail in such a manner that when the safety-bolt  $H$  is in such position that the lugs  $G'$  of the triggers abut against the same, the upper end of the safety-slide  $H'$  does not cover the word "Safe," and when the safety-slide  $H'$  is moved up so as to bring the safety bolt  $H$  out of the path of the lugs  $G'$  of the triggers  $G$  the word "Safe" will be covered.

Above the upper end of each hammer  $F$  an indicator-pin  $K$  is arranged in an opening of the breech-tail, which pins are pressed inward by springs  $K'$  surrounding them. Said pins  $K'$  are provided at the inner and outer ends with heads, the outer heads fitting into recesses in the breech-tail. When the gun is cocked the upper ends of the hammers  $E$  press on the inner heads of the indicator-pins  $K$  and press said pins outward, so that their upper heads project from the upper surface of the breech-tail, thus showing that one or both hammers are cocked. As soon as the gun is fired or uncocked, the springs  $K'$  draw the indicator-pins inward, so that marksmen can at all times tell which hammer is cocked.

The firing-pins  $L$  are provided at their inner ends with heads  $L'$  that are guided in recesses  $M'$ , of the lock-plates  $M$  and by recesses of the breech-block and on said heads  $L'$  the hammers  $E$  can act. A stirrup  $N$  is hinged at the ends of its shanks to the safety-bolt  $H$  and its closed front end is arranged between the two hammers and adjacent to the lever  $O$  which passes through a slot in the barrel locking bolt  $P$  that enters the notch  $a^2$  in the lug  $A^2$  at the breech-end of the barrels. A spring  $S$  secured to the under side of the breech-tail bears against one end of said locking-bolt  $P$  and presses the same toward the front.

To open the breech, the lever  $O$  is pulled toward the stock  $W$ , so as to disengage the front beveled end of the bolt  $P$  from the notch  $a^2$  of the lug  $A^2$  and the lever  $O$  while being moved toward the rear presses upon the front cross-piece of the stirrup  $N$  and presses the same toward the rear. As this stirrup is connected to the safety-bolt  $H$  it also presses the same and safety-slide  $H'$  toward the rear, thereby exposing the word "Safe" to view. By this movement of the safety-block  $H$  to the rear, it is brought in such a position as to rest upon the upper end of the lugs  $G'$  of the triggers, thereby preventing the triggers from being manipulated. Before the gun can be fired, the safety-slide  $H'$  must be moved toward the front again so as to cover the word "Safe" on the top breech-tail and to bring the lower end of the safety-block  $H$  in front of the lugs  $G'$ . The gun can now be fired. To open it again for the next charge, it is necessary to pull the lever  $O$  back again, whereby in the manner described, the safety-bolt  $H$  is again brought into position above the lugs  $G'$  of the triggers. The spring  $J$  automatically locks the safety-slide in the different positions. The breech-block  $C$  has two recesses  $m$  and  $m'$  for receiving the lugs  $A^2$  and  $A'$  of the barrels respectively. Said breech-block has a lug  $o'$  containing a screw  $p$ , the beveled lower end of which can act on the front end of the lug  $A^2$ , and when the barrel is swung in closed position presses the same firmly against the abutment  $s$  of said breech-block. A screw  $w$  in the abutment  $s$  also has a beveled lower end and rests on the upper surface of the locking-bolt  $P$  and serves to adjust the same to bring it in proper position in the slot of the abutment through which it passes, thus permitting of adjusting said locking-bolt  $P$  to be in proper position for engaging the notch  $a^2$  of the lug  $A^2$ .

$V$  is the trigger-plate.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a breech-loading fire-arm, the combination with hinged barrels and pivoted triggers, of a sliding barrel-locking bolt, a pivoted lever for operating said bolt, a sliding plate mounted on the breech-tail, which sliding plate has a post against which the triggers can strike, a spring for locking said sliding plate in different positions and means for shifting said sliding plate from the lever for operating the barrel-locking bolt, substantially as set forth.

2. In a breech-loading fire-arm, the combination with pivoted barrels, of a sliding barrel-locking bolt, a pivoted lever for operating said bolt, a sliding plate on the breech-tail, a post projecting from said sliding plate, a stirrup hinged to said post and having its front closed end adjacent to the lever for operating the barrel-locking bolt, and pivoted triggers that can strike against the post projecting from the sliding plate, substantially as set forth.



3. In a breech loading fire arm, the combination with hammers, of sliding pins in the breech tail in position to be elevated by the hammers when cocked, and springs for drawing said pins downward, substantially as set forth.

4. In a breech loading fire arm, the combination with a hammer having two shoulders, of a pivoted sear, a spring bearing against the shoulder of the sear and the shoulder of the hammer and a trigger for operating said sear, substantially as set forth.

5. In a breech-loading fire-arm, the combination, with a hammer having two shoulders, of a trigger-sear engaging one of said shoulders, a main-spring having one end resting against a shoulder of the hammer and the other end resting against a shoulder of the trigger-sear and a trigger mounted on the same shaft with the trigger-sear, substantially as set forth.

6. In a breech-loading fire-arm, the combination, with the lock-casing, of arms projecting from the same, hammers pivoted on said arms, a trigger-sear pivoted on said arms, a spring engaging the trigger-sear and hammer, and a trigger mounted on the same pin of said arm with the trigger-sear, substantially as set forth.

7. In a breech-loading fire-arm, the combination, with hinged barrels, of a spring-actuated barrel locking-bolt, a lever for shifting said bolt, a hammer, a trigger provided with a projection, a sliding-plate on the breech-tail, a stop bolt projecting downward from said sliding-plate, and a stirrup hinged to the bolt and having its front closed end adjacent to the lever for operating the barrel locking bolt, substantially as set forth.

8. In a breech-loading fire-arm, the combination, with barrels having two lugs, of which one serves for receiving the hinge pin and the other a locking-bolt, of a projection on the breech-block, which projection fits in between said lugs of the barrel, and an adjusting-screw in said projection, substantially as set forth.

9. In a breech-loading fire-arm, the combination, with a stock and a breech-block fitted to the same, which breech-block is provided at its rear end with an abutment, a barrel locking-bolt sliding in said abutment, and a screw at right-angles to the barrel locking-bolt, for the purpose of adjusting said bolt, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GUSTAV ADOLF SACHS.

Witnesses:

SHERWOOD BURR,  
JOSEPH KOCH.